

IN THE DRAWINGS

Please replace the drawing sheet containing Figure 2 with the attached drawing sheet, which includes identification of the capacitor leads 201 and 202.

REMARKS

The amendments to the description and the drawings have been made to improve clarity. It is respectfully submitted that no new matter has been added. The capacitor leads of Figure 2 have been identified as such, both in Figure 2 and in the corresponding sections of the description. Although the leads were not specifically mentioned in the application as filed, it would have been obvious to a person skilled in the art that the lines exiting the capacitor in Figure 2 are capacitor leads.

A certified copy of the Canadian priority document, CA 2447094, is attached hereto.

With reference to the prior art rejections set forth in the Office Action, claims 1, 8 and 9 stand rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,301,362 (Ohkawa), Reg. Number H148 (Thompson) and Prior Art (Admission), while claim 10 stands rejected under 35 U.S.C. 103(a) as being unpatentable over the foregoing references and further in view of U.S. Patent No. 3,317,763 to Brumfield. Applicants respectfully traverse these rejections in view of the amendments to claim 1 and the following arguments.

The present invention is a device which incorporates three basic components:

- 1) use of a magneto-cumulative generator (MCG) which converts mechanical energy to electricity using Faraday's law of electromagnetic induction.
- 2) use of "built-in" delay line(s) as an oscillatory circuit to generate a high power radio frequency (RF) pulse with high energy content from the energy created by the MCG.
- 3) transmission of the RF pulse to the surrounding environment via an antenna formed by the hydrocarbon byproducts arising from the detonation process.

Claim 1 has been amended to provide a more detailed recitation of component 2 (above). Claim 1 now specifies that the capacitor has first and second leads, “...*said first lead connecting said capacitor to said end cap and said second lead connecting said capacitor to the final turn of said helix, whereby said device comprises an oscillatory circuit which generates a high frequency RF pulse...*”

Support for the subject-matter of this amendment can be found, for example, in Figure 2 as filed, which clearly illustrates first and second leads exiting the capacitor, one lead being connected to the final turn of the MCG and the other lead being connected to an end cap. Paragraph [0041] as originally filed indicates that “*Delay line T₂₅₆ represents the loop between points 42 and 60*”.

The Examiner has opined that “*It would be obvious to one of ordinary skill in the art at the time of the invention to use a magneto-cumulative generator to power the transmitters in Ohkawa’s invention because they have inherently low impedance and an energy density that is four to six orders of magnitude higher than traditional high voltage capacitors and smaller in size.*” This opinion is respectfully traversed. The present invention is not simply a matter of “plugging in” an MCG to an RF generating device and then “plugging in” the RF generating device into an antenna. The invention lies in the novelty of the modification of a standard MCG to achieve RF generation and transmission. The RF generation and transmission of the present invention is effectively “built-in” to the MCG. A mosaic of references teaching the various functions performed by the invention does not lead one to the design of the present invention. Applicant admits that a person skilled in the art having view of Ohkawa may be lead to the idea that it would be beneficial to use an MCG to drive an RF transmitter because MCGs have inherently low impedance and an energy density that is four to six orders of magnitude higher

than traditional high voltage capacitors and smaller in size. However, he would NOT be led to the knowledge of how to design the elegant modification of an MCG to incorporate RF generation (and transmission) described by the present invention.

Unlike the present invention, none of the cited art teaches nor discloses, alone, nor in combination, the modification of the standard design of an MCG to effect the generation of RF pulses. None of the cited art teaches nor discloses "*a capacitor having first and second leads, said first lead connecting said capacitor to said end cap and said second lead connecting said capacitor to the final turn of said helix, whereby said device comprises an oscillatory circuit which generates a high frequency RF pulse*" as now recited by claim 1 of the present invention.

In view of the foregoing, Applicants respectfully submit that claim 1 as amended is novel and patentable over the prior art or record. Further, it therefore follows that claims 8 through 10, all of which depend upon claim 1, are also novel and patentable. Accordingly, Applicants respectfully request reconsideration and allowance of the application.

Respectfully submitted,

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